

101. A DNA sequence encoding human lactoferrin protein, wherein said DNA sequence is SEQ ID NO: 1 or 3, or a naturally-occurring allele of SEQ ID NO: 1 or 3.

102. A portion of the DNA sequence of claim 101, further defined as a region encoding a lactoferrin fragment comprising a human lactoferrin iron non-binding site.

103. The DNA sequence of claim 102, further defined as a regions encoding a carboxy terminal iron binding site, wherein said carboxy terminal iron binding site is obtained by treating said DNA SEQ ID NO: 1 or 3 with Sma I and Hind III restriction enzymes.

104. A plasmid adapted for the expression of human lactoferrin in a eukaryotic cell, wherein said plasmid comprises DNA encoding a human lactoferrin protein and regulatory elements necessary for the expression of said DNA in said cell.

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105. A plasmid comprising:

- (a) a DNA segment encoding human lactoferrin having the amino acid sequence of SEQ ID NO: 1 or 3; and
- (b) a promoter, and transcription and translation initiation and termination sequences;

wherein said plasmid is adapted for the expression of human lactoferrin in a eukaryotic cell.

106. A plasmid comprising:

- (a) DNA as defined by SEQ ID NO: 1 or 3 or a naturally-occurring allele thereof; and
- (b) a promoter, and transcription and translation initiation and termination sequences;

wherein said plasmid is adapted for the expression of human lactoferrin in a eukaryotic cell.

107. A recombinant expression plasmid vector having a transcriptional unit comprising:

- (a) a promoter;
- (b) DNA encoding the amino acid sequence of SEQ ID NO: 1 or 3; and
- (c) transcription and translation initiation and termination sequences;

wherein said vector permits the expression of a processed form of a human lactoferrin by a transformed host cell.

108. A recombinant expression plasmid vector comprising:

- (a) a promoter;
- (b) DNA encoding a human lactoferrin as defined by SEQ ID NO: 1 or 3 or a naturally-occurring allele thereof; and
- (c) transcription and translation initiation and termination sequences;

wherein said vector permits the expression of a processed form of a human lactoferrin by a transformed host cell.

109. A eukaryotic cell comprising the plasmid of claim 104.

110. The eukaryotic cell of claim 109, wherein said cell is selected from the group consisting of mammalian cells.

111. A transformed eukaryotic cell comprising the plasmid of claim 105.

112. A transformed eukaryotic cell comprising the plasmid of claim 106.

113. A method for producing human lactoferrin which comprises the following steps:

- (a) transforming a eukaryotic cell with an expression plasmid comprising an expression plasmid vector containing:
 - (i) DNA encoding human lactoferrin having the sequence of SEQ ID NO: 1 or 3 or a naturally-occurring allele; and